ABSTRACT OF THE DISCLOSURE

A method of dynamically controlling traction of a locomotive (V) having a plurality of axles (A1-A6) on each of which are mounted wheels (W) for moving the locomotive over a set of rails (R). A creep control signal (creep_n) is provided to a controller (TMTC) for each axle to move the locomotive over the rails, the creep control signal being a function of adhesion operation characteristics (tractive effort, torque, creep) for that axle. An advisory signal (ccc_n) combining values representative of the adhesion quality of the two axles is provided to the controller to maximize the tractive effort of the axle if the adhesion quality of the other axle is a maximum for the current rail conditions. This reduces the amount of time for the axle to attain its maximum tractive effort when rail conditions change.